

CLAIMS

What is claimed is:

1. An optical scanning apparatus comprising:
a light source;
a light deflector having at least one deflection surface to deflect a light beam emitted from the light source;
a target surface;
an image forming optical system to form an image on the target surface with the light beam deflected by the light deflector; and
a mirror member having different refractivities in a main scan direction and a sub scan direction so that the mirror member reflects the light beam emitted from the light source to form a linear image on the deflection surface which is relatively long in the main scan direction.
2. The optical scanning apparatus of claim 1, wherein the mirror member convergently reflects the light beam emitted from the light source and incident thereon in the sub scan direction.
3. The optical scanning apparatus of claim 2, wherein the mirror member is a cylindrical mirror having a plane in the main scan direction and a spherical or an aspherical surface in the sub scan direction.
4. The optical scanning apparatus of claim 3, wherein an angle of the light beam emitted from the light source and incident on the deflection surface of the light deflector is changed in the main scan direction using the mirror member.

5. The optical scanning apparatus of claim 1, wherein the mirror member is a cylindrical mirror having a plane in the main scan direction and a spherical or an aspherical surface in the sub scan direction.
6. The optical scanning apparatus of claim 5, wherein an angle of the light beam emitted from the light source and incident on the deflection surface of the light deflector is changed in the main scan direction using the mirror member.
7. The optical scanning apparatus of claim 1, wherein an angle of the light beam emitted from the light source and incident on the deflection surface of the light deflector is changed in the main scan direction using the mirror member.
8. The optical scanning apparatus of claim 2, wherein an angle of the light beam emitted from the light source and incident on the deflection surface of the light deflector is changed in the main scan direction using the mirror member.
9. The optical scanning apparatus of claim 1, wherein the light beam is divergently emitted from the light source and the apparatus further comprises a lens between the light source and the mirror member, which condenses the light beam divergently emitted from the light source and converts the light beam into a converging or parallel light beam.
10. The optical scanning apparatus of claim 1, wherein the image forming optical system comprises an f- θ lens, which guides the light beam deflected by the deflection surface of the light deflector with different refractivities in the main and sub scan directions to form the image on the target surface.

11. An apparatus comprising:

a light source to emit a light beam;

a mirror to reflect the emitted light beam; and

a deflector to deflect the reflected light beam,

the mirror having different refractivities in a main scan direction and a sub scan direction so that the reflected light beam forms a linear image on the deflector which is longer in the main scan direction than in the sub scan direction.

12. The apparatus of claim 11, further comprising:

a target surface; and

a lens between the deflector and the target surface, to receive the deflected light beam and form an image on the target surface.

13. The apparatus of claim 12, wherein the lens is closer to the deflector than the target surface.

14. The apparatus of claim 12, wherein the lens has different refractivities for the deflected light beam in the sub scan and main scan directions.

15. The apparatus of claim 11, wherein the mirror is a cylindrical mirror having a plane in the main scan direction.

16. The apparatus of claim 11, wherein the mirror is a spherical or an aspherical surface with a positive power in the sub scan direction.

17. The apparatus of claim 11, wherein the mirror is not optically influenced by a

change in the refractivities and an expansion coefficient of a material thereof when a temperature of the apparatus increases.

18. The apparatus of claim 11, wherein the mirror reflects the light beam in the main scan direction without converging/diverging the light beam, and convergently reflects the light beam in the sub scan direction.

19. The apparatus of claim 11, wherein an incident angle of the reflected light beam entering the deflector is approximately 60 degrees.

20. The apparatus of claim 11, wherein an incident angle of the reflected light beam entering the deflector is approximately 90 degrees.